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ABSTRACT

The Cummings Checklist of Characteristics of Gifted and Talented Children (CC) was evaluated with 516 elementary age pupils. Teachers used the checklist to nominate students for the gifted program. Ss were classified as either Test (IQ) Identified Gifted (TIG), Non-Test Identified Gifted (NTIG), or not classified. Results indicated that (1) the CC did discriminate between gifted and nongifted students with 18 of the 31 items found to discriminate based on chi square analysis or discriminant function analysis, (2) the CC did not discriminate between TIG and NTIG students, and (3) a significantly higher proportion of students from racial minority groups was identified when the CC was included in the screening procedure. A copy of the checklist is attached. (DB)

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CUMMINGS CHECKLIST OF CHARACTERISTICS OF GIFTED AND TALENTED CHILDREN

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Gifted minority and disadvantaged children have not been identified in numbers reflecting their population percentages in the public schools, a situation that is very costly both individually and socially. The entrance criterion for admittance to gifted programs has traditionally been the standardized intelligence test with heavy emphasis on a minimum cutoff score. Certain children have not had the opportunity for placement in gifted programs because they do not score at minimum cutoff levels on these measures. All too often those children are from minority and/or disadvantaged backgrounds.

If the assessment process is designed to locate all children who might qualify for identification as gifted, then alternative or additional criteria to the IQ test must be included. Further it is essential that the alternative criteria contain items which address differences in learning/behavioral styles.

The Cummings Checklist of Characteristics of Gifted and Talented Children (CC) was developed for use in providing supplemental information to traditional assessment methods to aid in the identification procedures in locating gifted children (Cummings, 1974a). The CC was developed to reflect the learning/behavioral styles of gifted and talented children including the culturally different and educationally disadvantaged. It was designed so that the behaviors listed could be readily observed by teachers and easily recorded. Research based on field testing provides data which show that the CC does discriminate between gifted and non-gifted students,

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and when used as a supplement to traditional assessment methods, increases the proportional representation of culturally different/educationally disadvantaged students among those who are identified as gifted.

The CC was developed in response to action by the governing board of the San Francisco School District.

In 1971 the district's Board of Education placed a moratorium on the use of group intelligence scores for any purpose in the district. Until that time, the gifted program relied upon site principals, who used the group IQ scores, to nominate or recommend elementary school students for further consideration for possible inclusion in the gifted program. In giving this checklist to classroom teachers, they were being provided with descriptions of those kinds of behaviors which have been found to be the best indicators of gifted and talented behavior in school age children. Educational research has suggested that teacher judgment of giftedness is not the most reliable among the ways of identifying such children. Through the utilization of the CC teachers were directed to respond to those items established as indices of giftedness rather than rely upon the subjective judgements and perhaps biases of individual teachers.

In dealing with a school district which has a large and diverse ethnic racial mixture, items were specifically included that were indicative of behaviors characteristic of culturally different and/or economically disadvantaged children. Many of the items on the CC were included because they were observable in non-classroom situations. This was particularly important in order to address the problem of differences in learning styles among ethnic minorities within the school population.

Many of the items on the CC do not require spoken language by the student in order for the observer to record the student's behavior. Most of the behaviors listed in the CC may be observed in the non-classroom behavior of any child.

Since inclusion of the CC in 1971 as a part of the screening procedure for identifying gifted students, the number of minority students identified and placed in the gifted program has shown a steady increase. It should be noted that the number of identified gifted in the district's gifted program has increased dispite declining enrollment in the district.

Research Questions Tested

The following research questions were investigated:

1. Do the items on the CC discriminate between gifted and non-gifted students and which items account for the differentiation?

2. Do the items on the CC discriminate between Test Identified Gifted (TIG) and Non-Test Identified Gifted (NTIG) students?

3. Are there greater percentages from racial minority groups among those identified as gifted since introduction of the CC as a part of the screening procedure for gifted students? Which CC items discriminate gifted from non-gifted students within the five ethnic groups examined:

a.	Other White (Non-Hispanic)	OW
b.	Chinese	C
c.	Negro/Black	N/B
d.	Spanish Speaking/Surname	SS
e.	Other Non-White	ONW

Description of the Sample

The subjects in this study consisted of elementary grade students from a large urban, multiethnic school district in Northern California. The school district has been under court ordered integration since 1971, thus the elementary students are distributed so that the students within each school are ethnically balanced.

Fifty-four of the districts' 101 elementary schools provided the subjects for this study. It was in these schools that gifted classes were conducted by teachers from the gifted program who gathered the CC's from the subjects' Cumulative Record Folders. A total of 516 elementary age pupils K-6, were

nominated by classroom teachers using the CC for possible identification for the gifted program. All the CC's had been filled in by classroom teachers who had received no instructions or in-service training beyond the directions printed on the checklist. Every CC which was located was included in the study. Of this group, 261 were identified as gifted, either as Test Identified Gifted (TIG) or as Non-Test Identified Gifted (NTIG). The remaining 255 were not so identified. Grade level determination was not persued farther than teacher identification on the CC. The school district program for the gifted began at the second grade level which necessitated identification procedures being introduced at earlier grade levels.

A sub sample of 204 identified gifted pupils was taken from the 261 TIG and NTIG. Fifty-seven identified gifted children were omitted from the sub sample because complete IQ data were unavailable.

All 516 students included in the sample had been screened for identification as "mentally gifted minors". This screening included a teacher-completed CC and an individual test of intelligence, either a Stanford-Binet or a WISC, plus district developed screening procedures (Cummings, 1974b). Those students identified as gifted were so identified in accordance with selection criteria defined by the State of California Administrative Code.

Summary and Discussion Research Question 1

Do the items on the CC discriminate between gifted and non-gifted students and which items account for the differentiation?

Of the 31 items on the CC there were significant differences as computed by chi-square analysis, on 12 items between the gifted and non-gifted samples. Further analysis using SPSS discriminant function analysis yielded 14 items which discriminate between gifted and non-gifted students. Eight of the items identified by the chi-square and the discriminant analysis are common items.

The results of the study suggest that certain items on the CC do indeed discriminate between gifted and non-gifted students and that use of the CC to supplement traditional assessment methods will aid in identifying some students who would not be selected solely on the basis of IQ test results.

A closer look at the items on the CC and how the classroom teachers responded to them provides some causes for speculation as to the ways in which teachers view gifted children. Research indicated that teacher judgement of giftedness is not very reliable and hence the CC items were taken from research which established them as indices of minority gifted and talented children (Jacobs, 1971). It has been stated that teachers can observe perceived student behavior and record on a checklist what they have observed. There appears to be some evidence, however, as Hilliard (1976) has stated, that the observer and the instrument are inseparable and that the biases of the observer will find their way into interpretation of observed behavior.

Some of the items on the CC would appear to be anti-social or at least unconventional in describing gifted and talented youth:

1. Item no. 19 Impatient-quick to anger
2. Item no. 20 Great desire to excel even to the point to cheating
3. Item no. 21 Colorful verbal expressions
4. Item no. 23 Frequently interrupts others when they are talking
5. Item no. 24 Frank in appraisal of adults

Torrance (1964) states:

> "The perceptions of educators and psychologists of creative possibilities among disadvantaged youths and children are also likely to be observed by behavior considered to immoral such as uncouth language, lying and cheating. It is important that those who are searching for giftedness among such youngsters try to determine the positive possibilities the undesirable behavior indicates rather than being concerned only about what punishment is merited."

Classroom teachers responded to these items by marking the gifted with higher percentages on numbers 21 - Colorful verbal expressions and 24 - Frank in appraisal of adults and the non-gifted with higher percentages on the other three items. Differences on item 19 - Impatient--quick to anger or anxious to complete a task, item 21 - Colorful verbal expressions, item 23 - Frequently interrupts others when they are talking, and item 24 - Frank in appraisal of adults were very small (4.5% at the most). For item 20 - Great desire to excel even to the point of cheating, CC's for the non-gifted had nearly double the percentage of checks as did those for the gifted.

Of the 12 items which showed significant differences between the gifted and non-gifted, item 10 - Readily makes money on various projects or activities- is an entrepreneur, and item 20 - Great desire to excel even to the point of cheating were both marked with greater frequency for the non-gifted. Item no 10 - Readily makes money on various projects or activities - is an entrepreneur, was only checked on a total of 18 of the 516 CC's. Thirteen of the CC's for the non-gifted were checked on item no. 10. It would appear that the type of activity represented by item no. 10 is rare to the teacher observer even though it does not seem to be necessarily indicative of giftedness.

Item no. 2 - Has received an award in science, art, literature had the fewest checks. There were only 17. Both the gifted and non-gifted received nearly equal numbers of checks for this item which suggests that such awards are few and far between or not evident to the classroom teacher who marked the CC. It should also be noted that the school district from which the sample came does not as a rule give these kinds of awards. Any such award would most probably have been given by the teacher or by an organization to which the teacher nominated the students. Reality infers that the teacher would have a great interest in one of the areas (science, art, or literature)

to proceed with this type of nomination. Teacher interest was not determined in this study.

Item no. 26 - Is inquisitive, received the greatest numbers of checks. The teachers in this study viewed this kind of behavior as a very strong predictor of giftedness. Item no. 4 - Very alert, rapid answers, is another powerful predictor as viewed by classroom teachers. Although not checked quite as often as item no. 26 - Is inquisitive, never the less, the differences between gifted and non-gifted were very significant.

Both these most frequently checked items are oral/verbal skills which are readily apparent to classroom teachers and which seem to provide evidence to teachers of a students' being above average. Item no. 26 - Is inquisitive, was checked on over 92% of the CC's for those students identified as gifted. Over 83% of the CC's for gifted students were checked on item no. 4 - Very alert, rapid answers.

Eight of the CC items which discriminated gifted from non-gifted were common to both the chi-square analysis and the discriminant function analysis. These were:

1. Item no. 3 Has avid interest in science or literature
2. Item no. 4 Very alert, rapid answers
3. Item no. 6 Has a wide range of interests
4. Item no. 8 Is venturesome, anxious to do new things
5. Item no.17 Creative in thoughts , new ideas, seeing associations, innovations, etc. (not artistically)
6. Item no.25 Has mature sense of humor
7. Item no.26 Is inquisitive
8. Item no.31 Has a tendency to lose awareness of time

Appropriate caution should be taken in generalizing on the relative strengths of these items, however. Examination of the discriminant function

coefficients shows a wider range of coefficient values among these items. Item no. 26 - Is inquisitive, is the strongest discriminant on both the chi-square and discriminant function analyses. Item no. 4 - Very alert, rapid answers, and item no. 17 - Creative in thoughts, new ideas, seeing associations, innovations, etc. both appear on the discriminant lists for the five various racial ethnic groups but with no pattern of relative strength or position on the lists. The remaining five items appear on from two to four of the racial ethnic group lists with the same lack of pattern of relative strength or position. Practitioners using the CC as an aid in identifying gifted children should take into account which of the CC items discriminate between gifted and non-gifted rather than how many items are listed. Using .30 as a cutoff point on the discriminant analysis coefficients shows that there are twenty CC items which discriminate gifted from non-gifted students. Most of the strength of the CC items as discriminators shows up in the various ethnic groups.

There are four items identified by the chi-square analysis which are not identified by the discriminant function analysis. These were:

1. Item no. 10 Readily makes money on various projects or activities--is an entrepreneur
2. Item no. 20 Great desire to excel even to the point of cheating
3. Item no. 27 Takes a close look at things
4. Item no. 28 Is eager to tell others about discoveries

Both item no. 10 - Readily makes money on various projects or activities-is an entrepreneur and item no. 20 - Great desire to excel, even to the point of cheating, were found to discriminate between gifted and non-gifted but in both instances in favor of the non-gifted.

It should be noted, however, that item no. 20 does appear on the Spanish Speaking/Surname list as a discriminant function. It is not possible to know

if the teachers who marked this item were responding to the descriptor relating to desire to excel or to their having actually observed cheating on the part of the student. This suggests that perhaps these behaviors should be separated or restated so as to enchance clarity of meaning. Also the culturally developed behavior of Hispanics to help one another could be viewed as cheating by teachers who are not aware of such behavior patterns. This situation and others of a similar nature suggest further study on the relationship between the ethnic backgounds of the pupil and the teacher who is marking the CC.

Item no. 27 - Takes a close look at things, appears on the discriminant function lists for two racial ethnic groups and item no. 28 - Is eager to tell others about discoveries, appears on three of the lists.

There were six items from the CC which were identified by the discriminant function analysis which were not identified by the chi-square analysis. These were:

1. Item no. 5 Is outstanding in math
2. Item no. 9 Tends to dominate peers or situations
3. Item no. 11 Individualistic-likes to work by self
4. Item no. 15 Adept at visual art expression
5. Item no. 16 Resourceful-can solve problems by ingenious methods
6. Item no. 23 Frequently interrupts others when they are talking

All of the above items appear on from two to five of the various racial ethnic group lists. Item no. 11 - Individualistic-likes to work by self, appears on all five of the racial ethnic group lists and is the second highest discriminant on the Other White List.

Summary and Discussion Research Question 2

Do the items on the CC discriminate between TIG and NTIG students?

Of the 31 items on the CC there was significant difference on one item,

no. 15 - Adept at visual art expression, between Test Identified Gifted (TIG) and Non-Test Identified Gifted (NTIG) samples.

The findings of the study suggest that the items on the CC do not discriminate between TIG and NTIG students. This further suggests that teacher perceptions of observed student behaviors as listed on the CC are nearly the same for those pupils who were TIG as for those pupils who were NTIG. It would appear that these findings would lend credence to the CC as an instrument worthy of inclusion in the overall screening process for gifted children in general and ethnic minority gifted children in particular. The findings also seem to show that despite whatever biases the classroom teachers may have, their perceptions of student behaviors are such that they are able to observe and record student behavioral characteristics as described by the items on the CC. Also of importance is the evidence that non-test indicators of giftedness used to supplement traditional methods of assessment have value and will very likely locate some children who should be identified as gifted but who might not be so identified solely by the use of IQ tests.

Summary and Discussion Research Question 3

Are there greater percentages from racial/ethnic minority groups among those identified as gifted since introduction of the CC as a part of the screening procedure for gifted students? Which CC items discriminate gifted from non-gifted students within the five ethnic groups examined?

Examination of enrollment percentages of membership in the gifted program for the year prior to the introduction of the CC and for the five years following shows that there was a dramatic increase in the percentages of ethnic minorities in the program. Data from the SPSS discriminant analysis show that there are from 12 to 18 items on the CC which discriminate between gifted and non-gifted students within the five ethnic groups included in the study.

Since initiation of the use of the CC in 1971-72 as part of the screen-

ing procedure in the district, the numbers of minority students identified and placed in the gifted program have increased dramatically. In 1970-71 the minority gifted population was 32% of the total of 1265 elementary school gifted. Of this 32%, Chinese students accounted for 26%. Over the next five years the minority gifted population averaged 54.7%. During the same period, Chinese students averaged 17.6%. These same five years saw average Negro/Black enrollment in the gifted program increase from 2% in 1970-71 to an average of 17.7%. Total numbers of identified gifted also showed an increase from 1970-71 through 1975-76 while district enrollment was steadily decreasing. Information on ethnic membership in the gifted program prior to 1970-71 is not available. Even so, the evidence showing the increase in minority enrollment in the gifted program, up more than 200% from 1971-72, when the CC was introduced, should not be minimized although the increase may not be entirely attributable to the use of the CC. It is also important to note that the five year span over which these gains are shown was one in which the elementary population of the district dropped from 47,433 to 35,952, a loss of 11,481 pupils or 24.4%. Notable also is the evidence that while the district population was decreasing, the total number of identified gifted students was increasing. In effect, more gifted students and more minority ethnic gifted pupils were being found from a lessening total school population.

The SPSS discriminant analysis shows that there are 29 items on the CC which discriminate between gifted and non-gifted students within the five ethnic groups included in this study. These data can provide useful information to those who might be charged with the identification of potentially gifted children.

Analysis of the discriminant function frequencies of the CC items for each of the five ethnic groups included in the study shows that 29 of the

31 CC items appear as discriminating between gifted and non-gifted students within the various ethnic groups. Three items, no. 4 - Very alert, rapid answers, no. 11 - Individualistic - likes to work by self, and no. 17 - Creative in thoughts, new ideas, seeing associations, innovations, etc,. appear as discriminating functions for all five ethnic groups.

The items which appear as the strongest discriminant functions for the various racial ethnic groups do not seem to follow a pattern reflecting relative strengths or types of behaviors. This would suggest that the CC items do relate to differences in cultural background which in turn influence behavioral and learning styles of culturally different/educationally disadvantaged youth.

As previously stated, use of the CC is suggested as a supplement to traditional assessment methods. For this reason all items which discriminate between the gifted and non-gifted total groups and between the gifted and non-gifted racial ethnic groups are included in the various lists. No consideration was given to eliminating certain items because of low coefficient values since every item would have some value in providing information to the assessor. The inclusion of all items which have been shown to point out giftedness in various racial ethnic groups might provide information which will relate to the differences in learning styles among those group members and thus speak to the problem of teachers' stereotyping certain students. As an example, there are a number of items on the list for Chinese gifted which are descriptors of behaviors which do not fit the stereotype of the typical "shy, quiet, Chinese" student.

It should be noted that even though many of the discriminant function coefficients are below .30, (generally accepted as the minimum cutoff point of significance) more items were found to be discriminatory among the ethnic groups. This has important implications for the way in which the CC is

used in selecting potentially gifted students. For example, item no. 28 - Is eager to tell others about discoveries, is a good discriminator for all ethnic groups except Other White while item no. 25 - Has mature sense of humor (puns, associations, etc.), is a good discriminator for Chinese and Spanish only. Within the five ethnic groups the coefficients of nineteen items on the CC are above .30 in discriminating gifted from non-gifted. In using the CC as a supplement to traditional means of assessment for identifying pupils as gifted, its importance lies not in the number of items that discriminate gifted from non-gifted, but rather in which items discriminate for which ethnic minority group.

A discussion of teacher responses as indicated by the CC's would seem in order. As already stated, the CC was made up of behavioral characteristics of gifted and talented minority youth. It is an assumption of this study that teachers are able to observe student behavior and check the CC where appropriate in order to record that behavior.

In considering the assumptions presented by Hilliard (1976) regarding the impact on assessment interactions between assessors and those being assessed, the degree of teacher bias which might have entered into the marking of the CC's for this study is uncertain. For instance, it is interesting to note that the strongest items marked for both the Negro/Black and Spanish Speaking/Surname groups are mainly non-academic items. It is known that the racial ethnic make-up of the teachers who marked the CC's in this study was nearly 75% Other White. It can be assumed that some bias was present among those teachers who marked the CC's for this study. Further study is needed to seek answers to questions relating to teacher bias, prejudice, differences in culture, and selective perceptions of student behaviors. Even so, the teachers who marked the CC's for this study did so in a way that brought out 29 of the 31 CC items as discriminating functions

which identify children from five different ethnic groups as gifted. It is important that all such discriminant items be included on each ethnic racial group list so that potentially gifted students are not overlooked.

Since the CC has been used as the preliminary screening device to locate gifted children, the percentage of those identified compared to the numbers tested as a final step for the consideration by the Identification and Placement Committee has greatly increased. When the group IQ test scores were used as the preliminary--and all too often the only--screening device to locate gifted children, only about 30% of those screened and individually tested qualified. In 1975-76 approximately 68% of those screened, using the CC, and tested were identified as gifted.

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SAN FRANCISCO UNIFIED SCHOOL DISTRICT

Programs for Mentally Gifted Minors

WILLIAM B. CUMMINGS, Supervisor

Student's Name _____ School _____ Grade _____ Room _____

Teacher's Name _____

To the Teachers:

We need your help. We're looking for children in your classroom who you feel might be a lot smarter than their test scores indicate. The following list of characteristics, while by no means all inclusive, represents traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following check list for the top students in your class. This checklist should be sent to the Building Principal who will then forward it to the Gifted Program Office. Supporting information and comments should be written on the back of this form.

____ 1. Is an avid reader.

____ 2. Has received an award in science, art, literature.

____ 3. Has avid interest in science or literature.

____ 4. Very alert, rapid answers.

____ 5. Is outstanding in math.

____ 6. Has a wide range of interests.

____ 7. Is very secure emotionally.

____ 8. Is venturesome, anxious to do new things.

____ 9. Tends to dominate peers or situations.

____ 10. Readily makes money on various projects or activities -- is an entrepreneur.

____ 11. Individualistic -- likes to work by self.

____ 12. Is sensitive to feelings of others -- or to situations.

____ 13. Has confidence in self.

____ 14. Needs little outside control -- disciplines self.

____ 15. Adept at visual art expression.

____ 16. Resourceful -- can solve problems by ingenious methods.

Continued on back

Checklist compiled by William B. Cummings

____ 17. Creative in thoughts, new ideas, seeing associations, innovations, etc. (not artistically).

____ 18. Body or facial gestures very expressive.

____ 19. Impatient -- quick to anger or anxious to complete a task.

____ 20. Great desire to excel even to the point of cheating.

____ 21. Colorful verbal expressions.

____ 22. Tells very imaginative stories.

____ 23. Frequently interrupts others when they are talking.

____ 24. Frank in appraisal of adults.

____ 25. Has mature sense of humor (puns, associations, etc.)

____ 26. Is inquisitive.

____ 27. Takes a close look at things.

____ 28. Is eager to tell others about discoveries.

____ 29. Can show relationships among apparently unrelated ideas.

____ 30. Shows excitement in voice about discoveries.

____ 31. Has a tendency to lose awareness of time.